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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/118,010	07/17/98	YAMAZAKI	S 0756-1838

MM42/0721
SIXBEY FRIEDMAN LEEDOM & FERGUSON
2010 CORPORATE RIDGE
SUITE 600
MCLEAN VA 22102

EXAMINER
GUERRERO, M

ART UNIT	PAPER NUMBER
2822	6

DATE MAILED: 07/21/99

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

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Office Action Summary

Application No.
09/118,010

Applicant(s)
Yamazaki et al.

Examiner
Maria Guerrero

Group Art Unit
2822



☒ Responsive to communication(s) filed on May 6, 1999

☒ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) 1-8 and 11-16 is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 1-8 and 11-16 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☒ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been
☐ received.

☒ received in Application No. (Series Code/Serial Number) 08/962,840

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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DETAILED ACTION

This communication is in response to the Amendment filed May 6, 1999.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-8, 11-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wakai et al. (U.S. 5,055,899) (previously applied) in view of Tsumura et al. (U.S. 5,500,537) (previously applied).

3. Wakai et al. discloses an inverted staggered TFT, a substrate 101, a gate insulating film 103, a semiconductor film 104 (amorphous silicon or the like) (see col. 4, lines 15-30, col. 5, lines 40-45), an insulating film 108 can be comprising polyimide or an acrylic resin over a semiconductor layer 104 (see col. 6, lines 2-10), a transparent electrode 110 made of ITO over the insulating layer 108; source and drain (106 and 107)

Tsumura et al. discloses a substrate 1 can be made of insulating plastics such as polyimide, and polyphenylene sulfide film (see col. 3, lines 15-20), a layer 3 provided on the substrate 1, it can be made of polymers (resinous layer it is inherent) (from the fig. 1, the layer 3 is inherently

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planarized), a semiconductor layer 4 comprising low resistance polysilicon or low-resistance amorphous silicon (see col. 3, lines 22-30). Referring to fig. 7, it is disclosing a substrate 11, a resinous layer 13 (it is inherent), a thin film transistor, an interlayer dielectric 16 comprising a resinous layer (it is inherent), an indium tin oxide layer 23 (see fig. 7, col. 11, lines 12-30, 49-51).

4. It would have been obvious to a person of ordinary skill in the art to modify Wakai et al. 's semiconductor device by including the information provided by Tsumura et al. **because** it would complete a semiconductor device having an inverted staggered TFT than could be easily manufactured.

5. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wakai et al. (U.S. 5,055,899) (previously applied) in view of Koezuka et al. (U.S. 5,107,308) (previously applied).

Koezuka et al. discloses a substrate 1 can be made of polyimide film (see col. 4, lines 23-26), an insulating layer 3 can be polyethylene (resinous layer), a semiconductor layer 41(see fig.3, col. 3, lines 50-65, col. 4, lines 50-55).

The modification of Wakai et al. 's device by using the materials taught by Koezuka et al. is considered to be obvious as above.

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6. *Response to Arguments*

7. Applicant's arguments with respect to claims 1-8, 11-16 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Whetten (U.S. 5,498,573) and Ono et al. (U.S. 5,541,748) disclose a semiconductor device having several elements related to Applicant's disclosure. Yamazaki et al. (U.S. 5,289,300) teaches an amorphous silicon film being crystallized (see col. 7, lines 35-65).

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Maria Guerrero whose telephone number is (703) 305-0162. The examiner can normally be reached on Monday-Friday from 8:00 Am to 4:30 Pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl Whitehead, can be reached on (703) 308-4940. The fax phone number for this Group is (703) 308-7722.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0956.

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July 16, 1999


Carl Whitehead, Jr
Supervisory Patent Examiner
Semiconductor Technology